



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,796	03/29/2004	Leonard Stephen Buchanan	1211-RE	2525
23711	7590	01/30/2006	EXAMINER	
BISSELL & BISSELL 6820 LA TIJERA BOULEVARD SUITE 106 LOS ANGELES, CA 90045			WILSON, JOHN J	
			ART UNIT	PAPER NUMBER
			3732	

DATE MAILED: 01/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/811,796	BUCHANAN, LEONARD STEPHEN	
	<b>Examiner</b>	<b>Art Unit</b>	
	John J. Wilson	3732	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 37-69 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 37-69 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Cross Reference to Copending Reissue Application***

Applicant is required to amend the present specification at line 1 to include a cross reference to copending reissue application 09/845,599, 37 CFR 1.177.

### ***Amendments to Claims***

Applicant has directed that claims 1-36 and 70 be canceled, however, in a reissue application, to cancel original patent claims, these claims must be submitted enclosed in brackets. In response to this Office Action, applicant should submit claim 1-36 enclosed in brackets. It is not necessary for claim 70 because it was not in the original patent claims. For purposes of this Office Action, it is assumed that claims 1-36 as well as claim 70 have been canceled.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 46-48 and 53 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, or does not enable one to make and use the invention. As to claim 46, the original disclosure does not

Art Unit: 3732

support the limitation of only a portion of the file being nickel-titanium alloy, and as such, is held to be improper new matter. As to claim 47, the original disclosure further does not support the limitation of the portion of the file being nickel-titanium alloy being in the vicinity of the tip, and as such, is held to be improper new matter. As to claim 53, this claim contains new matter because drawings cannot be used to interpret size, unless disclosed as being drawn to scale, the size of the sides of the triangles shown in the drawings is not taught by the drawings, and as such, while the drawings support the triangle shape, they cannot be used to support a limitation to an equilateral triangle. As to claims 61 and 68, the terminology "linear" is not used in the specification, and it is not enabling because it has not been described as to what is meant by the terminology.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 37-59 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As to claims 37-59, the limitation of the file have a "taper which is greater than the standard ISO file taper" is indefinite because organizational standards may change with time. As to claims 60-66, in claim 60, line 6, "a shank" is unclear as to whether it is referring to the same shank referred to in line 2 or another.

***New Matter in Reissue***

Claims 46-48 and 53 are rejected under 35 U.S.C. 251 as being based upon new matter added to the patent for which reissue is sought. The added material which is not supported by the prior patent is as follows:

As to claim 46, the original disclosure does not support the limitation of only a portion of the file being nickel-titanium alloy, and as such, is held to be improper new matter. As to claim 47, the original disclosure further does not support the limitation of the portion of the file being nickel-titanium alloy being in the vicinity of the tip, and as such, is held to be improper new matter. As to claim 53, this claim contains new matter because drawings cannot be used to interpret size, unless disclosed as being drawn to scale, the size of the sides of the triangles shown in the drawings is not taught by the drawings, and as such, while the drawings support the triangle shape, they cannot be used to support a limitation to an equilateral triangle. As to claims 61 and 68, the terminology "linear" is not used in the specification, and it is not enabling because it has not been described as to what is meant by the terminology.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 37, 43 and 60 are rejected under 35 U.S.C. 102(b) as being anticipated by Heath et al (5106298). Heath shows an endodontic file 10, shank 12, tip at 16 and a flute 21 that has a taper defined by included angle "A", Fig. 4, the angle being .5 to 4 degrees, column 3, lines 17-20. The current ISO standard of taper is .02 mm/mm, which is approximately 1-2 degrees of taper, therefore, Heath teaches using a taper greater than the current ISO standard and greater than .02 mm/mm.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 38-40, 59, 63, 64 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heath et al (5106298) in view of Arpaio, Jr. et al (4934934). Heath shows the structure as described above, however, does not show a flute portion that varies in pitch. Arpaio teaches using a file having a flute that varies in pitch along its length, column 5, lines 64-66. It would be obvious to one of ordinary skill in the art to modify Heath to include a flute that varies in pitch as shown by Arpaio in order to better prepare the canal at different locations. As to claims 39 and 40, the ratio of change is an obvious matter of choice in the degree of a known parameter to the skilled artisan. As to claims 59 and 67, Heath does not show a shank fitted for being driven in a handpiece. Arpaio shows using a shank 12 with a fitting 18 for a handpiece, column 2,

lines 38-42. It would be obvious to one of ordinary skill in the art to modify Heath to include a shank as shown by Arpaio in order to make use of a handpiece to better drive the file.

Claims 41, 42, 65 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heath et al (5106298) in view of Levy (5213499). Heath shows the structure as described above, however, does not show varying the sharpness along the length. Levy teaches that the sharpness and cross section are related, column 1, lines 58-66. It would be obvious to one of ordinary skill in the art to modify Heath to include varying the sharpness as suggested by Levy because it is well known to vary the cross section along the length, and therefore, is suggestive of varying the sharpness.

Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heath et al (5106298) in view of Arpaio, Jr. et al (4934934) as applied to claim 38 above, and further in view of Levy (5213499). The above combination does not show varying the sharpness along the length. Levy teaches that the sharpness and cross section are related, column 1, lines 58-66. It would be obvious to one of ordinary skill in the art to modify the above combination to include varying the sharpness as suggested by Levy because it is well known to vary the cross section along the length, and therefore, is suggestive of varying the sharpness.

Claim 58 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heath et al (5106298) in view of Levy (5213499) as applied to claim 41 above, and further in view of Arpaio, Jr. et al (4934934). The above combination does not show a flute portion that varies in pitch. Arpaio teaches using a file having a flute that varies in pitch along its length, column 5, lines 64-66. It would be obvious to one of ordinary skill in the art to modify the above combination to include a flute that varies in pitch as shown by Arpaio in order to better prepare the canal at different locations.

Claims 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heath et al (5106298) in view of Arpaio, Jr. et al (4538989). Heath shows the structure as described above, however, does not show varying the angle of the flute. Arpaio teaches using a file having a flute angle "A", Fig. 1, that varies. It would be obvious to one of ordinary skill in the art to modify Heath to include a flute angle that varies as shown by Arpaio in order to better prepare the canal at different locations. As to claim 45, the direction in which the flute angle varies is an obvious matter of choice in the location of a known element to the skilled artisan.

Claims 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heath et al (5106298) in view of Heath et al (5380200). Heath (298) shows the structure as described above, however, does not show using nickel titanium. Heath (200) teaches using nickel titanium, column 3, lines 65, through column 4, line 7. It would be obvious to one of ordinary skill in the art to modify Heath (298) to include the



use of nickel titanium shown by Heath (200) in order to better reach areas within the canal.

Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heath et al (5106298) in view of Heath et al (5380200) as applied to claim 47 above, and further in view of Lovaas (4889487). The above combination does not show using a file with a curvature. Lovaas teaches using curved files, Fig. 2. It would be obvious to one of ordinary skill in the art to modify the above combination to include using a curved file as shown by Lovaas in order to better reach and clean areas within the canal.

Claims 49-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heath et al (5106298) in view of Buchanan (4836780). Heath shows the structure as described above, however, does not show a shank having a smaller diameter than the nearest flute. Buchanan shows a shank having a smaller diameter, Figs. 2 and 5. It would be obvious to one of ordinary skill in the art to modify Heath to include a shank as shown by Buchanan in order to make use of known file shapes to best be used in a root canal. The specific size of the part is an obvious matter of choice in the degree in size to one of ordinary skill in the art. Heath shows transitional lands.

Claims 52 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heath et al (5106298) in view of Leonard (4634378). Heath shows the structure as described above, however, does not show three spirals with a general S-shaped cross

section between any two. Leonard shows S-shaped cross sections between spirals, Figs 2 and 3. It would be obvious to one of ordinary skill in the art to modify Heath to include spirals shaped as shown by Leonard in order to better clean the root canal.

Claims 53, 55 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heath et al (5106298) in view of Roane (4536159). Heath shows the structure as described above, however, does not show a triangular cross section. Roane shows a triangular cross section, Fig. 5. It would be obvious to one of ordinary skill in the art to modify Heath to include a triangular cross section as shown by Roane in order to better clean the root canal. As to claim 55, Heath does not show a cross section having concave bridging portions. Roane shows concave bridging portions, Fig. 6. It would be obvious to one of ordinary skill in the art to modify Heath to include a cross section including concave bridge portions as shown by Roane in order to better clean the root canal.

Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heath et al (5106298) in view of Malmin (3949479). Heath shows the structure as described above, however, does not show a hexagonal cross section. Malmin shows using a hexagonal cross section 34, Fig. 7. It would be obvious to one of ordinary skill in the art to modify Heath to include a hexagonal cross section as shown by Malmin in order to better clean the root canal.

Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heath et al (5106298) in view of McSpadden (4332561). Heath shows the structure as described above, however, does not show a smooth tip. McSpadden teaches using a smooth tip 15. It would be obvious to one of ordinary skill in the art to modify Heath to include a smooth tip as shown by McSpadden in order to better guide the tool in the canal.

Claim 68 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heath et al (5106298) in view of Levy (5213499) and Arpaio, Jr. et al (4934934) as applied to claim 58 above, and further in view of Roane (4536159). The above combination does not show a triangular cross section. Roane shows a triangular cross section, Fig. 5. It would be obvious to one of ordinary skill in the art to modify the above combination to include a triangular cross section as shown by Roane in order to better clean the root canal.

Claim 69 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heath et al (5106298) in view of Levy (5213499) and Arpaio, Jr. et al (4934934) as applied to claim 58 above, and further in view of Leonard (4634378). The above combination does not show using an S-shaped cross section. Leonard shows using an S-shaped cross section, Figs. 2 and 3. It would be obvious to one of ordinary skill in the art to modify the above combination to include an S-shaped cross section as shown by Leonard in order to better clean the root canal.

***Drawings***

No changes have been made to the drawings.

***Specification***

The specification is objected to because subject matter in claims 52-55, 61, 62, 68 and 69 are shown in Figs. 4C-A, 4C-B, 4D-A, 4D-B, 4E-A and 4E-B, with the exception of equilateral, however, are not described in the specification. No new matter may be added.

***Supplemental Oath or Declaration***

Applicant is reminded that if any amendments are made, that are not covered by the original declaration, then a supplemental Oath or Declaration is required pointed out the errors being corrected.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Wilson whose telephone number is 571-272-4722). The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin P. Shaver, can be reached at 571-272-4720). The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**John J. Wilson**  
**Primary Examiner**  
**Art Unit 3732**

jjw  
December 31, 2005